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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/676,249

09/30/2003

Lester F. Ludwig

2152-3018

6374

35884

7590

03/29/2010

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EXAMINER

FLETCHER, MARLON T

ART UNIT

PAPER NUMBER

2832

NOTIFICATION DATE

DELIVERY MODE

03/29/2010

ELECTRONIC

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/676,249  
Filing Date: September 30, 2003  
Appellant(s): LUDWIG, LESTER F.

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C. W. Schmoyer  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 10/02/2009 appealing from the Office action mailed 12/02/2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

09/812,400

10/676,926

10/702,941

10/683,915

10/680,591

10/703,023

10/702,262

10/702,415

11/004,746

11/040 163

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**GROUND OF REJECTION NOT ON REVIEW**

The following grounds of rejection have not been withdrawn by the examiner, but they are not under review on appeal because they have not been presented for review in the appellant's brief. Claims 2-22, 24-44, 46-61, 63-78, 80-90, and 92-102 are not presented for appeal. The appeal is directed to independent claims 1, 23, 45, 62, 79, and 91.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,990,408

HASEBE

11-1999

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2832

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-102 rejected under 35 U.S.C. 102(e) as being anticipated by Hasebe (5,990,408).

Hasebe. (claims 1, 17, 23, 39, 45, 62, 79, 91) discloses a multi-channel signal processing system comprising: a transducer signal interface (2, 3) for receiving a plurality of distinct incoming audio electrical signals produced in response to vibrations of an associated plurality of vibrating elements; a plurality of signal processors (12-14, 19), wherein each processor of said plurality of signal processors receives a selected one of said plurality of incoming audio electrical signals, wherein each processor of said plurality of signal processors process a received incoming audio electrical signal to produce an audio output signal, wherein said processing of said received incoming audio electrical signal is performed by variably changing one or more signal attributes of said received incoming audio electrical signal (figure 3), wherein said one or more attributes is selected from the group consisting of: pitch, timbre, or timing (column 4, line 30- column 5, line 10; and column 5, line 40 – column 6, line 8); and an output signal interface (23) for providing said audio output signal for each of said plurality of signal processors.

Hasebe (claims 2, 24, 58, 59, 75, 76, 80, 92) discloses the system, wherein at least one processor (19) of said plurality of signal processors is controlled by an incoming signal processing control signal.

Hasebe (claims 3, 25, 56, 57, 73, 74, 81, 93) discloses the system, wherein each processor of said plurality of signal processors provide said processing according to a selected one of a plurality of pre-programmed processing instructions (column 5, lines 46-56).

Hasebe et al. (claims 4, 26, 55, 82, 94) discloses the system, wherein an incoming signal processing control signal (via control sect 16) is used to select said one of said plurality of pre-programmed mixing instructions; wherein synthesizer mixes (22) the incoming signals.

Hasebe (claims 5, 27, 61) discloses the system, wherein said plurality of signal processors define first and second groups of signal processors (12-14), wherein each signal processor of said first group of signal processors process said received incoming audio electrical signal by variably changing at least one signal parameter selected from the group consisting of: pitch, timbre, or timing (column 4, line 30- column 5, line 10; and column 5, line 40 – column 6, line 8); wherein said second group of signal processors independently process said received incoming audio electrical signal by variably changing at least one signal parameter selected from the group consisting of: pitch, timbre, or timing (column 4, line 30- column 5, line 10; and column 5, line 40 – column 6, line 8).

Hasebe (claims 6, 28, 83, 95) discloses the system, wherein each processor of said plurality of signal processors further process said received incoming audio electrical signal by modulating signal amplitude of said received incoming audio electrical signal (column 4, lines 22-29).

Hasebe (claims 7, 29, 84, 96) discloses the system, wherein at least one of said plurality of vibrating elements is a tunable, fixed-pitch vibrating element (abstract).

Hasebe (claims 8, 30, 85, 97) discloses the system, wherein at least one of said plurality of vibrating elements is a variable-pitch vibrating element (abstract).

Hasebe (claims 9, 31) discloses the system, wherein each processor of said plurality of signal processors dynamically modulates the timbre of said received incoming audio electrical signal; wherein (claim 10, 32) each processor of said plurality of signal processors changes the pitch of said received incoming audio electrical signal (column 5, line 61 – column 6, line 13); wherein (claims 11, 33, 78) each processor of said plurality of signal processors changes the timing of said received incoming audio electrical signal (figure 3).

Hasebe (claims 12, 13, 14, 16, 34, 35, 36, 38, 45, 47-52, 54, 62, 64-69, 71, 72, 86-88, 90, 98-100, 102) discloses said system further comprising: a controllable output mixer (22) for receiving said plurality of audio output signals, wherein said plurality of audio output signals are controllably mixed by said controllable output mixer according to a selected one of a plurality of pre-programmed mixing instructions to produce at least one outgoing mixed audio output signal.

Hasebe (claims 15, 37, 53, 60, 70, 89, 101) discloses the system, wherein said at least one outgoing mixed audio signal comprises a signal of MIDI format (column 7, lines 35-40).

Hasebe (claims 18, 40) discloses the system, wherein each processor of said plurality of signal processors receives a fixed selection of one of said plurality of

Art Unit: 2832

incoming audio electrical signals (figure 3 – the processors clearly receive fixed incoming audio signals).

Hasebe (claims 19, 21, 41, 43) discloses the system, wherein said selection is determined by a switch (25), wherein (claims 20, 42) said switch is controlled by stored pre-programmed instructions (wherein the functions are programmed).

Hasebe (claims 22, 44, 46, 63, 77) discloses the system, wherein said incoming switch control signal comprises a signal of MIDI format (via MIDI converter 18)

#### **(10) Response to Argument**

1. Appellant's arguments begin discussing the first non-final office action. This argument is irrelevant since the reference discussed is not related to the appeal.

2. Appellant argues another office action that is not up for appeal.

3. Appellant argues against the final office action. Again this is not the office action up for appeal.

4. Finally, the Appellant provides arguments regarding the last Office action (third non-final) which is up for appeal. The appellant provides quotes from this office action.

B. Appellant states "The Examiner has not shown that Hasebe anticipates the claims."

1. Appellant follows this statement with "Hasebe fails to teach .... processing an incoming audio signal ... changing one of pitch ...."



The Examiner disagrees with these statements or arguments. As discussed in the office action, Hasebe provides input means (transducers) for receiving audio input, wherein the signal is process to determine pitch of the signal and correct (vary) the pitch.

Appellant discusses limitations of claim 1, stating "claim 1 recites in part "a plurality of signal processors, wherein each processor ... receives a selected one of said plurality of incoming audio electrical signals, wherein each processor ... process[es] a received incoming audio electrical signal to produce an audio output signal, wherein said processing ... is performed by variably changing one or more signal attributes ..., wherein said one or more signal attributes is selected from the group consisting of: pitch, timbre, or timing." Appellant believes that these limitations are not met by Hasebe. However, the examiner disagrees and points out the elements by one to one matching. Hasebe provides a plurality of processors (12-15, and 19). Hasebe provides the processors receiving incoming audio signals via transducers (2, 3). Based on the pitch detection (13, 15), pitch is detected and corrected (processed and varied) (column 4, line 30 - column 5, line 10; and column 5, line 40 – column 6, line 8). Correcting the pitch, equates to varying the pitch, wherein the pitch is changed from one pitch to another pitch. The appellant discusses the analog-to-digital converters, which process the incoming audio signals as well. Further, the appellant discusses the control section (16). Appellant states that the control section provides control signals for adding various effects to the audio signals. The examiner sees this as still a processing of the audio input signal. Looking at figure 3, the audio input from elements (2, 3) are

Art Unit: 2832

provided to elements (10, 11, and 27) all which process the input signals. As for elements (10 and 11 - ADCs), after processing the input signals, the signals are sent to elements (12-15 and 19) for further processing. From elements (12-15), the control section processes the input signals to provide control (correction or effects) for varying the signal, wherein the control or effect includes pitch. With this said, various elements process the input signals to provide an output of a variation of the input signals, which includes varying pitch. The same results are provided through appellant's invention wherein an audio signals are input via a transducers, processed through plural processors, wherein attributes (effects) including pitch are varied (changed) and outputted. The appellant argues that Hasebe's tone generator (17) never receives an incoming audio signal. The examiner disagrees and relies on figure 3, to show the signal audio signals which are processed through elements (12-16) are input to tone generator (17).

2. Appellant argues that "Hasebe fails to teach at least one of the signal processors is controlled by an incoming signal processing control signal as recited in dependent claims 2, 24, 58, 59, 75, 76, 80, 92." While the examiner disagrees, the Appellant has removed the dependent claims from appeal. As stated under the heading "GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL", the Examiner's §102(b) rejection of the independent claims 1, 23, 45, 62, 79, and 91 is appealed. Further, the Examiner has addressed the signal processors above.

C. Currently no claims have been allowed.

Art Unit: 2832

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Marlon T Fletcher/

Primary Examiner, Art Unit 2832

Conferees:

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Quality Assurance Specialist, TC 2800

Application/Control Number: 10/676,249  
Art Unit: 2832

Page 12